US ITC Testimony
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Chairman Aranoff and members of the Commission, thank you for the opportunity to testify before you today with regard to factors that disproportionately impact small businesses' ability to export. My remarks will focus on two issues. First, are unfair trade practices in the rare earth element market, which is dominated by Chinese interests. The second is the impact of US Export Controls on our export business.

Electron Energy Corporation was founded in 1970 in a milk house in Lancaster County, Pennsylvania. Our founder obtained a non-exclusive license to produce samarium cobalt permanent magnets developed and patented by the US Air Force. Our company was one of the first in the world to produce rare earth permanent magnets. "Rare earth" is a misnomer for the 15 elements of the periodic table known as the Lanthanide series. They are neither rare nor are they earths, what is rare, however, is the capacity to mine and refine the raw material necessary to support worldwide manufacturing demand for this important raw material. In fact, rare earths are the backbone of numerous defense and "green" technologies and are prevalent in fluorescent light bulbs, computer hard disk drives, wind turbines, motors, cell phones, hybrid electric vehicles, nickel metal hydride batteries, civilian and military radar and communications and numerous defense systems.

Today, nearly 100% of the world's rare earth metals and over 97% of the rare earth oxides come from China. The past decade has seen an unmistakable trend toward increased dominance in raw material production and manufacturing by China, and a steep decline in U.S. rare earth and magnet production capabilities from its peak of about 6000 people employed in the 1990's to about 500 today. Notably, there is currently no domestic production of neodymium iron boron magnets. Our company of 110 employees in its single 40,000 square foot manufacturing site is the last rare earth magnet producer in the US who melts and sinters magnets in this approximately $5 billion market. Currently, there is one United States rare earth mine and processing facility (which is not mining), a major United States Geological Survey-validated deposit of rare earths in Idaho, two small alloying facilities and one significant rare earth magnet producer, namely our firm, making the nation's supply-chain for critical renewable energy and defense systems nearly non-existent and leaving the United States dangerously vulnerable to potentially unreliable foreign nations.

In 2005 Chinese rare earth oxide producers agreed on production caps, which began a trend of reduction in tonnages available for the export market and has decreased by 16%. The producers agreed that if they sold at less than agreed-upon prices, fines of roughly $100 per metric ton could be levied. In addition, rare earth export quotas were established that continue today. On January 1, 2008, China increased its export duties from 10% to 25% on many rare earths which were not allowed for in China's protocol of

accession to the WTO. Last summer a draft report from the Chinese Ministry of Industry and Information Technology suggested that China limit export of rare earths, including a prohibition on the export of three "heavy" rare earth elements, causing a firestorm of media attention. Under intense public pressure, the Chinese backed away from the plan.

Industry experts such as Dudley Kingsnorth of The Industrial Minerals Company of Australia estimated that Chinese domestic consumption and supply will increase substantially during this decade. Chinese demand will be a big part of worldwide demand and non-Chinese rare earth resource production will be essential to alleviate shortages. Even if some non-Chinese mining capacity were to come on-line in the next 3-5 years, supply will remain tight and prices will remain high on key rare earth elements through 2014.

These Chinese actions add to export prices for rare earths, and place non-Chinese magnet producers and other value added users of rare earth elements at a structural competitive disadvantage. Already industry is seeing moves by the Chinese to link future access to rare earth materials to an agreement to move upstream manufacturing and even intellectual property development into China. These actions and supply chain risks and vulnerabilities are impediments to our ability to compete worldwide and put our nation's defense systems and our traditional and emerging green economies in jeopardy.

The current export control regime is the second focus of my testimony today. Roughly 70% of Electron Energy Corporation's products support defense and space applications by providing rare earth magnets and magnet assemblies typically three to six tiers below the end users. We strongly want to support export controls that keep our nation strong and safe, however, export controls as currently administrated have negative consequences on our ability to export due to inflexibility in the system and outdated protocols.

As an example, one longstanding UK customer recently indicated that they have stopped doing business with all US firms due to the rigidity and bureaucratic nature of the U.S. Export Control system. Our products were subsequently replaced by magnets produced in the defense embargoed country of China. Another UK customer we quoted indicated that they would not entertain considering our quote due to a contractual customer requirement that they not purchase US originated parts due to the risks and issues associated with export control. We have determined that export compliance obligations have reduced our military end use exports by 50%, reducing total company revenue by 5%. One of our customers has told us their export business could be tripled if it weren't for export control implications.

Additionally, some European firms now market their systems as "ITAR-free" which can be considered a euphemism for "no US parts content". Some of our very loyal foreign customers have indicated that they will have to develop alternative non-U.S. sources of supply to comply with these master contract provision flowdowns. We anticipate this will result in replacement of EEC products by European or Chinese magnets. This displacement provides an impetus to our foreign competitors to improve

their capabilities, which they can use potentially against us in the US and other export markets.

In addition, we constrain ourselves to hiring only US persons since we are too small to want to deal with segregation of information for potential non-US persons in our single manufacturing site. This limits our ability to hire the best and brightest in the world in the already small area of permanent magnet experts. In the area of export control, we support the recommendations of the National Association of Manufacturers for fundamental reform from whom you will hear later today.

In conclusion, a coalition of magnet suppliers known as the US Magnet Materials Association (USMMA) has suggested the need for urgent and collective action by the federal government to head off the impending rare earth crisis. With a 3-5 year timeline to reestablish a domestic rare-earth supply-chain, the United States is already in a "silent crisis." It is unclear whether rare earth material will be available outside China in the coming years. We support the recommendations of the USMMA which proposes the creation of an interagency working group, with high-level principals identified and empowered by the Secretaries of Commerce, Defense, Energy, State, the U.S. Trade Representative and the Executive Office of the President, charged with implementing a six-point plan to restore a domestic rare earth supply chain to meet economic and national security needs and include:

1. ***Establish a baseline*** - *Studies by affected agencies to establish a baseline of rare earth usage and dependence and any economic or national security issues that result, as well as an action plan to restore specific holes in the domestic supply-chain, to include mining, refining, alloying and manufacturing [Note: many of these are ongoing]*

2. ***Obtain raw material necessary to resume defense critical rare earth manufacturing in the face of a pending worldwide shortage*** - *A program whereby the Defense National Stockpile purchases existing rare earth supply to support the US Government's critical needs while the domestic supply chain is rebuilt over the next 5 years*

3. ***Government initiated action to ensure fair trade*** - *A government initiated action to investigate potential foreign government market manipulation or dumping in the rare earth market, as a means of leveling the playing field for domestic competitors*

4. ***Investment in a globally competitive rare earth supply-chain*** - *A $2B DOE led grant and loan guarantee program to support the reestablishment of mining and refining operations in the US that will support the domestic supply-chain*

5. ***Specific focus on defense critical components*** *- Numerous Defense Production Act programs ($10-50M each) to support establishment of domestic manufacturing capability in critical segments of the rare earth market*

6. ***Investment to ensure future innovation*** *- Support of innovation, training and workforce development to support the rare earth element supply chain by providing base budget funding for academic institutions, government laboratories, companies, non-profits and industry associations*